


**STATE OF NEW HAMPSHIRE  
INTER-DEPARTMENT COMMUNICATION**

 **DATE:** November 30, 2016

**FROM:** Matt Urban  
Wetlands Program Manager **AT (OFFICE):** Department of  
Transportation

**SUBJECT** Dredge & Fill Application **Bureau of**  
Statewide, 40871 **Environment**

**TO** Gino Infascelli, Public Works Permitting Officer  
New Hampshire Wetlands Bureau  
29 Hazen Drive, P.O. Box 95  
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT Bureau of Highway Design for the subject minor impact project. This project is classified as minor per Env-Wt 303.03a. The project consists of drainage maintenance and improvements on NH Route 102 in the Town of Londonderry, NH. This work is necessary in order to maintain the integrity of the existing infrastructure and extend the functional lifespan of the roadway and drainage systems.

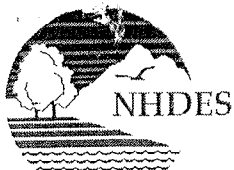
The lead people to contact for this project are Tobey Reynolds, Highway Design (271-2171 or Tobey.Reynolds@dot.nh.gov) or Matt Urban, Wetlands Program Manager, Bureau of Environment (271-3226 or Matt.Urban@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #465479) in the amount of \$808.20.

If and when this application meets with the approval of the Bureau, please send the permit directly to Matt Urban, Wetlands Program Manager, Bureau of Environment.

MRU:mmd  
Enclosures

cc:  
BOE Original  
Town of Londonderry (4 copies via certified)  
Edna Feighner, NH Division of Historical Resources  
Michael Hicks, US Army Corps of Engineers (electronic notification)  
Carol Henderson, NH Fish and Game (electronic notification)  
Maria Tur, US Fish and Wildlife Service (electronic notification)  
Mark Kern, Environmental Protection Agency (electronic notification)



# WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau

Land Resources Management

Check the status of your application: [www.des.nh.gov/onestop](http://www.des.nh.gov/onestop)



RSA/Rule: RSA 482-A/ Env-Wt 100-900

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

**1. REVIEW TIME:** Indicate your Review Time below. To determine review time, refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact)

☐ Expedited Review (Minimum Impact only)

**2. MITIGATION REQUIREMENT:**

If mitigation is required a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if Mitigation is Required, please refer to the Determine if Mitigation is Required Frequently Asked Question.

Mitigation Pre-Application Meeting Date: Month: \_\_\_ Day: \_\_\_ Year: \_\_\_ **N/A - refer to 11/29/16**

☐ N/A - Mitigation is not required **email from Lori Sommer**

**3. PROJECT LOCATION:**

Separate wetland permit applications must be submitted for each municipality that wetland impacts occur within.

ADDRESS: **NH Route 102**

TOWN/CITY: **Londonderry**

TAX MAP:

BLOCK:

LOT:

UNIT:

USGS TOPO MAP WATERBODY NAME: **Neskenag Brook**

☐ NA

STREAM WATERSHED SIZE: **685 acres**

☐ NA

LOCATION COORDINATES (If known): **42.836, -71.394**

☒ Latitude/Longitude ☐ UTM ☐

**4. PROJECT DESCRIPTION:**

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT replv "See Attached" in the space provided below.

**The proposed project involves primarily resurfacing throughout southern NH with some minor drainage improvements. Drainage work along NH102 in Londonderry will impact jurisdictional wetlands and will include replacing an existing 36" CMP with a 48" RCP 350' south of Parmenter Rd, sliplining two existing 24" CMPs approx 0.5m and 1m north of Parmenter Rd and replacing a slope pipe 450' north of Parmenter Road.**

**5. SHORELINE FRONTAGE:**

☒ NA This does not have shoreline frontage.

SHORELINE FRONTAGE:

Shoreline frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line.

**6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:**

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the Land Resources Management Web Page.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Individual Sewerage Disposal per RSA 485-A:2	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Subdivision Approval Per RSA 485-A	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED
Shoreland Permit Per RSA 483-B	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	_____	<input type="checkbox"/> APPROVED <input type="checkbox"/> PENDING <input type="checkbox"/> DENIED

**7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:**

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: **NHB 16 - 3090**

b. ☐ Designated River the project is in ¼ miles of: \_\_\_\_\_; and  
date a copy of the application was sent to the Local River Management Advisory Committee: Month: \_\_\_ Day: \_\_\_ Year: \_\_\_  
☒ N/A

[shoreland@des.nh.gov](mailto:shoreland@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

**8. APPLICANT INFORMATION (Desired permit holder)**LAST NAME, FIRST NAME, M.I.: **Bureau of Highway Design, Dept. of Transportation**

TRUST / COMPANY NAME:

MAILING ADDRESS: **7 Hazen Drive**TOWN/CITY: **Concord**STATE: **NH**ZIP CODE: **03302**EMAIL or FAX: **Tobey.Reynolds@dot.nh.gov**PHONE: **603-271-2171**ELECTRONIC COMMUNICATION: By initialing here: TR, I hereby authorize NHDES to communicate all matters relative to this application electronically**9. PROPERTY OWNER INFORMATION (If different than applicant)**

LAST NAME, FIRST NAME, M.I.:

TRUST / COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here \_\_\_\_\_, I hereby authorize NHDES to communicate all matters relative to this application electronically

**10. AUTHORIZED AGENT INFORMATION**

LAST NAME, FIRST NAME, M.I.:

COMPANY NAME:

MAILING ADDRESS:

TOWN/CITY:

STATE:

ZIP CODE:

EMAIL or FAX:

PHONE:

ELECTRONIC COMMUNICATION: By initialing here \_\_\_\_\_, I hereby authorize NHDES to communicate all matters relative to this application electronically

**11. PROPERTY OWNER SIGNATURE:**

See the Instructions &amp; Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form ([www.nh.gov/nhdhr/review](http://www.nh.gov/nhdhr/review)) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for NHPA 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not



Property Owner Signature

Tobey Reynolds  
Print name legibly

11/30/2016


Date

## MUNICIPAL SIGNATURES

### 12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.


	Print name legibly	Date
---	--------------------	------

#### **DIRECTIONS FOR CONSERVATION COMMISSION**

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

### 13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

	Print name legibly	Town/City	Date
---	--------------------	-----------	------

#### **DIRECTIONS FOR TOWN/CITY CLERK:**

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

#### **DIRECTIONS FOR APPLICANT:**

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

**14. IMPACT AREA:**

For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact

Permanent: impacts that will remain after the project is complete.

Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland	220	<input type="checkbox"/> ATF	2662	<input type="checkbox"/> ATF
Scrub-shrub wetland		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Emergent wetland		<input type="checkbox"/> ATF	312	<input type="checkbox"/> ATF
Wet meadow		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Intermittent stream		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Perennial Stream / River	2 / 3	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Lake / Pond	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Bank - Intermittent stream	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Bank - Perennial stream / River	23 / 5	<input type="checkbox"/> ATF	822 /	<input type="checkbox"/> ATF
Bank - Lake / Pond	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Tidal water	/	<input type="checkbox"/> ATF	/	<input type="checkbox"/> ATF
Salt marsh		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Sand dune		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Prime wetland		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Prime wetland buffer		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Undeveloped Tidal Buffer Zone (TBZ)		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Previously-developed upland in TBZ		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Docking - Lake / Pond		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Docking - River		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
Docking - Tidal Water		<input type="checkbox"/> ATF		<input type="checkbox"/> ATF
<b>TOTAL</b>	<b>245 / 8</b>		<b>3796 /</b>	

**15. APPLICATION FEE:** See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of \$ 200

☒ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking) 4041 sq. ft. X \$0.20 = \$ 808.20

Temporary (seasonal) docking structure:                      sq. ft. X \$1.00 = \$

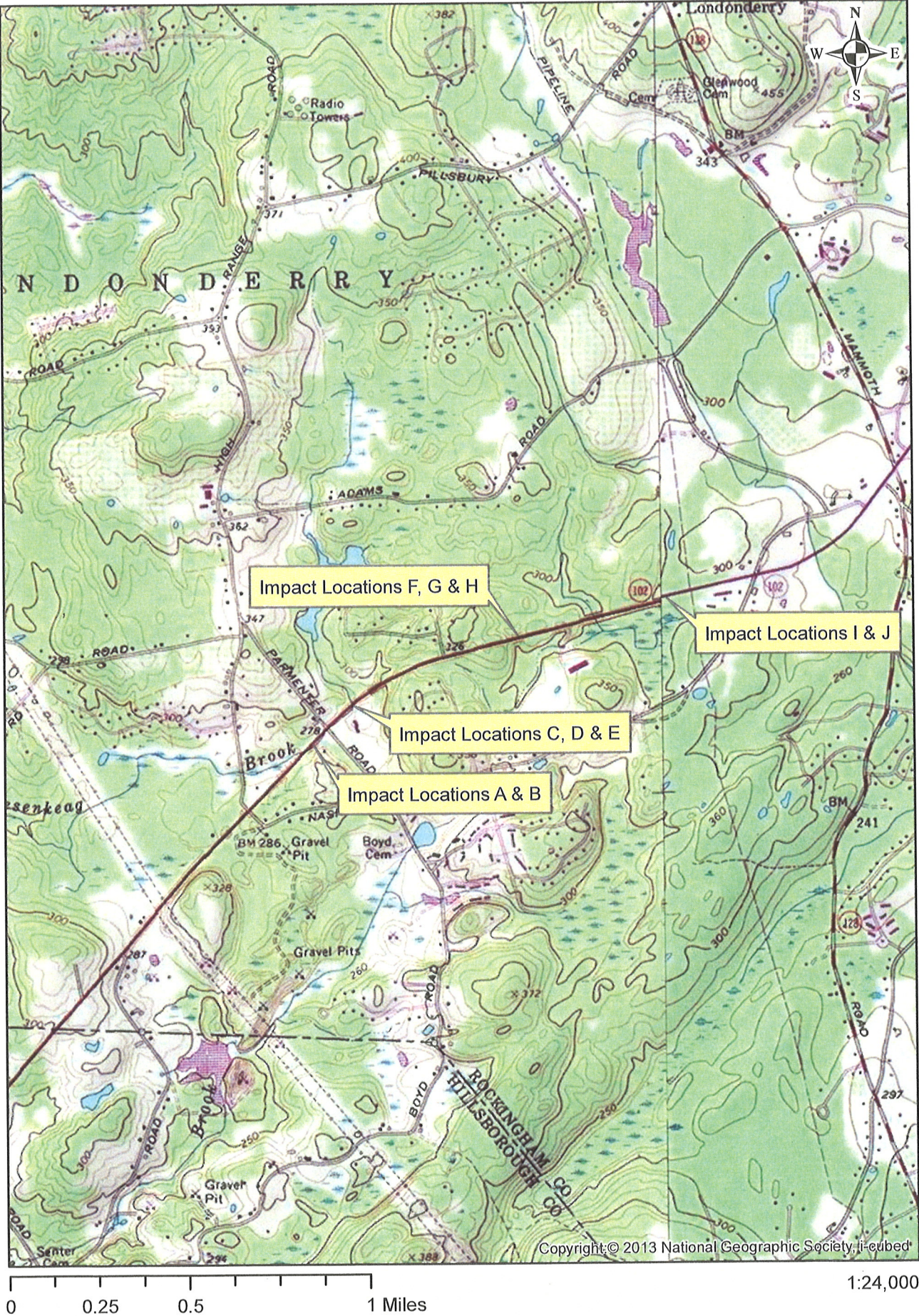
Permanent docking structure:                      sq. ft. X \$2.00 = \$

**Projects proposing shoreline structures (including docks) add \$200 = \$**

**Total = \$**

The Application Fee is the above calculated Total or \$200, whichever is greater = \$ 808.20

# Statewide 40871- Londonderry Wetland Impact Locations



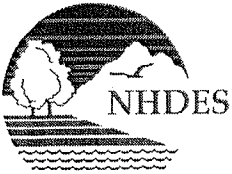


# WETLANDS PERMIT APPLICATION – ATTACHMENT A

## MINOR AND MAJOR - 20 QUESTIONS

Water Division/ Wetlands Bureau/ Land Resources Management

Check the Status of your application: [www.des.nh.gov/onestop](http://www.des.nh.gov/onestop)



RSA/ Rule: RSA 482-A, Env-Wt 100-900

**Env-Wt 302.04 Requirements for Application Evaluation** - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The proposed project involves primarily resurfacing on four stretches of roadway throughout southern NH including NH Route 111 in Windham and Salem, US Route 4 in Durham and Dover, NH Route 125 in Kingston and NH Route 102 in Hudson, Litchfield and Londonderry. The work on NH111 and US4 will be limited to strictly resurfacing. The work on NH125 will include one drainage update that will not impact jurisdictional wetlands. The work on NH102 will include several drainage updates, some of which will impact jurisdictional wetlands, as detailed in this application package. The proposed drainage work is designed to achieve the minimum necessary update to the existing drainage system in order to maintain the integrity of the roadway as part of a preventative maintenance project. All drainage work on NH102 is located in the Town of Londonderry and involves upsizing one cross pipe under NH102 (Impact Locations A & B), replacing three slope pipes along NH102 (Impact Locations C-E), sliplining two crosspipes (Impact Locations F-J) and replacing a rusted CMP sluice with a drop-inlet drain-basin and outlet pipe.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

The proposed drainage work has been designed to achieve the necessary structure maintenance and upgrades to maintain roadway integrity and safety while minimizing impacts to the surrounding area. Each location has very limited impacts, most of which are temporary. The proposed slip-lining alternatives at two of the cross pipes are buried under the roadway at a depth that makes traditional replacement difficult due to the cost and additional impact area necessary for digging up and stabilizing the roadway during replacement. Sliplining at these locations allows for minimal disturbance as the existing pipe remains in place and no excavation is necessary. Any loss in passage due to sliplining will be mitigated by upsizing another nearby crossing from a 36" CMP to a 48" RCP. This increase in pipe size is still a minimal impact to the surrounding wetlands and will not detract from the function and value of the wetland.

[shoreland@des.nh.gov](mailto:shoreland@des.nh.gov) or (603) 271-2147

NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095

[www.des.nh.gov](http://www.des.nh.gov)

3. The type and classification of the wetlands involved.

**Palustrine Emergent Persistent Seasonally Flood/Saturated (PEM1E)**

**Palustrine Forested Broad-Leaved Deciduous, Seasonally Flooded/Saturated (PFO1E)**

**Riverine Lower Perennial Unconsolidated Bottom Cobble-Gravel (R2UB1)**

**Bank**

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

**The proposed work is situated along a corridor with several wetland pockets along both sides of the roadway. Connectivity between these wetlands will be maintained and/or improved as a result of the proposed work, as it will extend the functional lifespan of the existing drainage system.**

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

**The wetland types which will be impacted, as described above in #3, are very common to NH and are not considered rare in this area. There will be no impact to any large surface waters or special wetland types including prime wetlands, sand dunes or tidal areas.**

6. The surface area of the wetlands that will be impacted.

**The proposed work will result in 3,796 s.f. of temporary impact and 245 s.f. of permanent impact to jurisdictional wetlands.**

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

**The impact areas are not located on navigable waters and will not interfere with or obstruct public rights of passage in any way.**

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

**The proposed work is mostly limited to the existing disturbed footprint for the existing drainage system and will not impact abutting properties.**

12. The benefit of a project to the health, safety, and well being of the general public.

**The proposed culvert replacements and sliplining will extend the functional lifespan of the existing drainage system and provide a benefit to public health and safety by ensuring the stability of the roadway to the traveling public.**

7. The impact on plants, fish and wildlife including, but not limited to:
- a. Rare, special concern species;
  - b. State and federally listed threatened and endangered species;
  - c. Species at the extremities of their ranges;
  - d. Migratory fish and wildlife;
  - e. Exemplary natural communities identified by the DRED-NHB; and
  - f. Vernal pools.

NHNHB, NHFG and USFWS have reviewed the proposed work at all sections, the description below details the work on the Hudson-Londonderry NH102 section for which this application is submitted:

a-b. NHNHB identified one species of special concern (wood turtle), one state threatened species (spotted turtle) and two state endangered species (Blanding's turtle and eastern hognose snake) which are known to occur in the project area. No plant species were identified along this stretch. NHFG expressed concern for lost turtle passage due to the proposed sliplining, however, an agreement was made to line one of the pipes with a CMP to increase traction and decrease velocity and upsize the existing 36" CMP near Parmenter Road to a 48" RCP (Impact Locations A & B) in order compensate for the lost passage due to sliplining. This crossing is better situated to provide maximum benefit to many species, including protected turtle species. The proposed scope of work will include minor tree clearing to access the drainage locations, which has been submitted to USFWS for review in order to assess potential impacts to northern long-eared bats. Because this clearing cannot be limited to the NLEB winter hibernation, it is anticipated that this project is a May Affect, Likely to Adversely Affect project and will employ several Minimization and Mitigation Measures to limit the impact to NLEB as much as possible.

- c. There are no species at the extremities of their ranges within the project area
- d. No migratory fish or wildlife will be impacted by the proposed project
- e. There are no exemplary natural communities located within the project area
- f. There are no vernal pools located within the project area

8. The impact of the proposed project on public commerce, navigation and recreation.

The proposed maintenance project is designed to extend the functional lifespan of the roadway in order to ensure continued safe use by the public. There will be no road closures and any work with anticipated significant impacts to traffic flow will be completed at night in order to reduce the disruption as much as possible. As such, there will be no negative impacts to public commerce, navigation and recreation.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

**All of the proposed work takes place off the roadway and within cut sections hidden from traveling public and will no result in any change to the aesthetics in the project area.**

13. The impact of a proposed project on quantity or quality of surface and ground water. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

**There are no proposed permanent impacts on the water quantity or quality. The proposed wetland impacts are mostly temporary for the sake of accessing the pipes, and areas with permanent impacts where stone will be placed are intended to improve the water quality in the area by reducing the potential for erosion. There is no proposed increase in impervious surface and no change in drainage flow pattern or amount, however, updating deteriorated pipes within the existing drainage system will ensure that water continues to flow through as intended and will prevent flooding and sedimentation of nearby wetlands.**

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

**The proposed drainage maintenance and updates will ensure that water flows through the existing drainage system as designed, which reduces the risk of flooding, erosion and sedimentation in the project area.**

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

**The project is not located within any surface waters which produce current or wave energy and will not cause damage or create hazards.**

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland or wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland and the percentage of that ownership that would be impacted.

**Due the nature of the work, which involves maintenance to public infrastructure along built roadway systems, it is unlikely that abutting landowners will propose the same kinds of impacts. Further, the proposed work is designed to maintain the existing drainage system and will not disturb previously undisturbed areas.**

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

**The proposed work will not negatively impact the values and functions of the wetlands in the project area.**

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

**There are no sites included in or eligibal for the National Register of Natural Landmarks within the project area.**

19. The impact upon the value of areas named in acts of congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

**There are no areas named in acts of congress or presidential proclamations as described above within the project area.**

20. The degree to which a project redirects water from one watershed to another.

**Water will not be redirected to another watershed.**

Additional comments

[shoreland@des.nh.gov](mailto:shoreland@des.nh.gov) or (603) 271-2147  
NHDES Wetlands Bureau, 29 Hazen Drive, PO Box 95, Concord, NH 03302-0095  
[www.des.nh.gov](http://www.des.nh.gov)

## **Dube, Melilotus**

---

**From:** Sommer, Lori  
**Sent:** Tuesday, November 29, 2016 3:06 PM  
**To:** Urban, Matt  
**Cc:** Dube, Melilotus  
**Subject:** RE: Statewide 40871 (DES# TBD)

Hi Matt,

I haven't had a chance to review this and am in the field the rest of the week. What tier is the stream? I would suggest that you submit what you have as it sounds reasonable or may not require mitigation and I'll have to spend more time with this when it comes in. Thanks,

Lori

---

**From:** Urban, Matt  
**Sent:** Tuesday, November 29, 2016 2:35 PM  
**To:** Sommer, Lori  
**Cc:** Dube, Melilotus  
**Subject:** RE: Statewide 40871 (DES# TBD)

Hi Lori,

Hope you had a great Thanksgiving.

Just wanted to follow up on this email from before the holiday to make sure it didn't get lost in the flood of incoming mail.

Thanks,  
Matt

---

**From:** Urban, Matt  
**Sent:** Wednesday, November 23, 2016 1:44 PM  
**To:** Sommer, Lori  
**Cc:** Dube, Melilotus  
**Subject:** Statewide 40871 (DES# TBD)

Good afternoon Lori,

We are looking for your concurrence regarding the amount of mitigation required for a project we will be submitting an application for in the very near future.

This is a Statewide resurfacing project with minor drainage repairs that have been incorporated into the project. The only impacts to wetlands/streams occur within the Town of Londonderry.

There is only one specific location that we will be permanently impacting the bank and channel of a delineated stream all other impact areas are temporary and would not trigger the need for mitigation. At the area in need of mitigation the Department is proposing to replace a failed 12" slope pipe that originates from a catch basin on the edge of pavement and outlets into a small perennial stream that runs parallel to the roadway. The pipe will be replaced with a 12" Plastic Pipe and a small 5'x5' stone apron will be placed at the outlet of the pipe. (A stone apron does not currently exist at this location).

This will result in 5LF of bank impact and 3 LF of channel impact.

I have attached a snapshot of the specific area in question- it is from sheet 6 on the larger plan set.  
I have also attached the entire plan set showing all the proposed drainage work.  
Also included in this email is the arm calculator for the stream impacts. (Totaling \$1,960.32)

Please let me know if you concur with the mitigation amount as shown in the calculator.

Let us know if you have any questions.

Thanks,  
Matt Urban

# Memo



NH NATURAL HERITAGE BUREAU  
NHB DATACHECK RESULTS LETTER

To: Meliottus Dube, New Hampshire Department of Transportation  
7 Hazen Drive  
Concord, NH 03301

From: Amy Lamb, NH Natural Heritage Bureau  
Date: 10/11/2016 (valid for one year from this date)  
Re: Review by NH Natural Heritage Bureau  
NHB File ID: NHB16-3090

Town: Hudson, Litchfield, Londonderry Location: NH Route 102 from NH Route 3A  
intersection northerly to 193

Description: NHDOT Statewide 40871 Hudson-Londonderry. Resurfacing within the existing edge of pavement, including pavement inlays and overlays. Additional drainage work including 6 pipe replacements, guardrail work including resetting and extension and sidewalk work including installation of ADA compliant tip down end units will also be included.

cc: Kim Tuttle

As requested, I have searched our database for records of rare species and exemplary natural communities, with the following results.

Comments: Please contact NH Fish & Game.

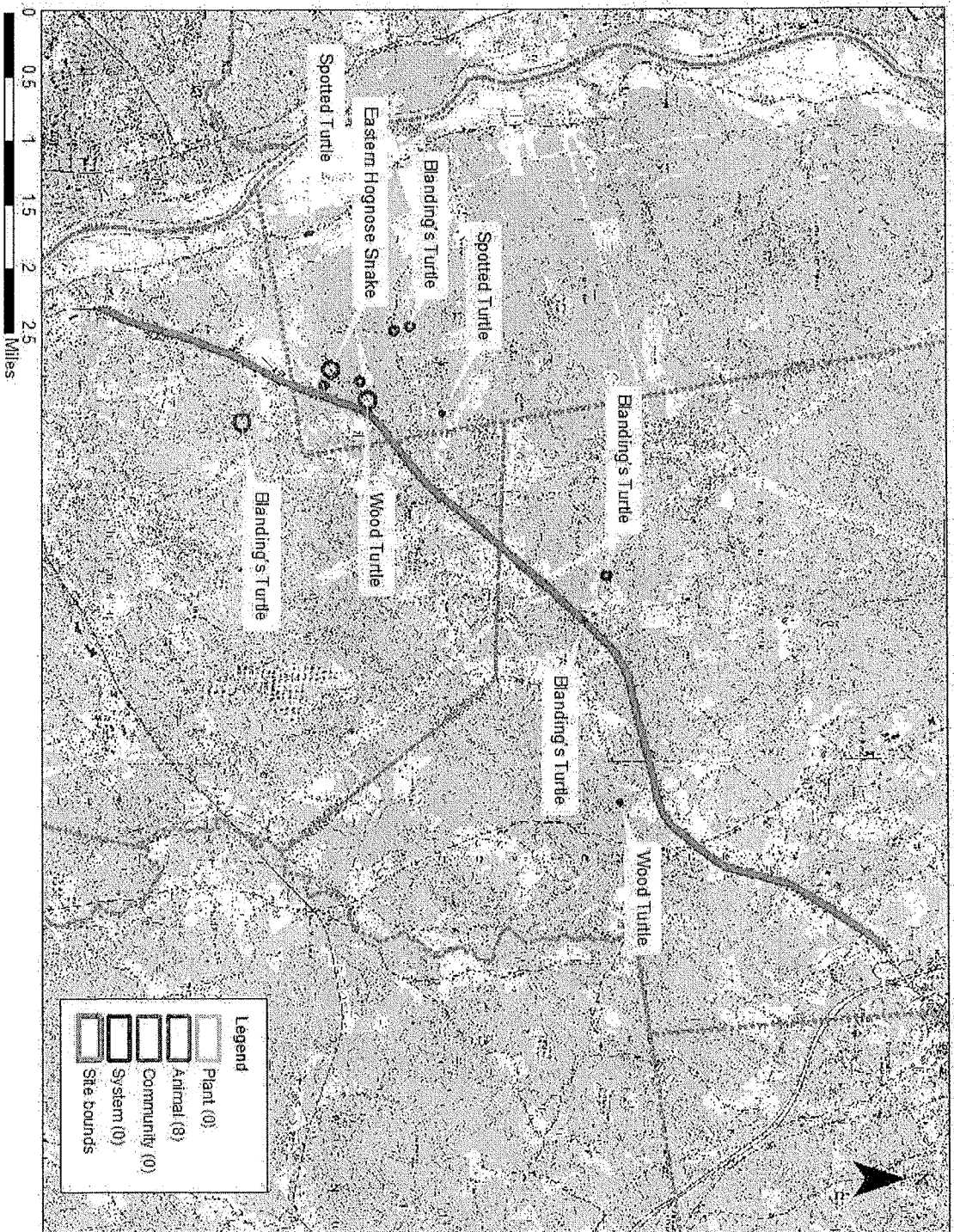
Vertebrate species	State <sup>1</sup>	Federal	Notes
Blanding's Turtle ( <i>Emydoidea blandingii</i> )	E	--	Contact the NH Fish & Game Dept (see below).
Eastern Hognose Snake ( <i>Heterodon platirhinos</i> )	E	--	Contact the NH Fish & Game Dept (see below).
Spotted Turtle ( <i>Clemmys guttata</i> )	T	--	Contact the NH Fish & Game Dept (see below).
Wood Turtle ( <i>Glyptemys insculpta</i> )	SC	--	Contact the NH Fish & Game Dept (see below).

<sup>1</sup>Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern, "--" = an exemplary natural community, or a rare species tracked by NH Natural Heritage that has not yet been added to the official state list. An asterisk (\*) indicates that the most recent report for that occurrence was more than 20 years ago.

Contact for all animal reviews: Kim Tuttle, NH F&G, (603) 271-6544.

A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

NHB16-3090



## New Hampshire Natural Heritage Bureau - Animal Record

**Blanding's Turtle (*Emydoidea blandingii*)****Legal Status**

Federal: Not listed  
State: Listed Endangered

**Conservation Status**

Global: Apparently secure but with cause for concern  
State: Critically imperiled due to rarity or vulnerability

**Description at this Location**

Conservation Rank: Not ranked  
Comments on Rank:

Detailed Description: 2003: Area 565: 1 adult. Plastron about 8" long.  
General Area: 2003: Area 565: Terrestrial - floodplain forest habitat along Chase Brook is a series of forested wetlands, swamps, and marshes. The road crossing at Albuquerque is a narrow section and has forested wetland with maples and pines to the east. The stream to the west quickly leads to an extensive cattail/loosestrife beaver marsh.

General Comments:  
Management  
Comments:

**Location**

Survey Site Name: Nesenkeag Brook  
Managed By: Litchfield- Albuquerque Ave

County: Hillsborough  
Town(s): Litchfield  
Size: 1.9 acres                      Elevation: 185 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2003: Area 565: Albuquerque Ave at the crossing of Chase brook with Albuquerque Ave.

**Dates documented**

First reported: 2003                      Last reported: 2003

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

## New Hampshire Natural Heritage Bureau - Animal Record

**Blanding's Turtle (*Emydoidea blandingii*)****Legal Status**

Federal: Not listed  
State: Listed Endangered

**Conservation Status**

Global: Apparently secure but with cause for concern  
State: Critically imperiled due to rarity or vulnerability

**Description at this Location**

Conservation Rank: Not ranked  
Comments on Rank:

Detailed Description: 2015: Area 14107: 1 adult observed, sex unknown.  
General Area: 2015: Area 14107: Roadside, grassy lawn leading to wetland.  
General Comments:  
Management  
Comments:

**Location**

Survey Site Name: Chase Brook  
Managed By:

County: Rockingham  
Town(s): Londonderry  
Size: .4 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2015: Area 14107: Route 102, Londonderry, alongside Penny Fence Company.

**Dates documented**

First reported: 2015-05-13 Last reported: 2015-05-13

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

## New Hampshire Natural Heritage Bureau - Animal Record

**Blanding's Turtle (*Emydoidea blandingii*)****Legal Status**

Federal: Not listed  
State: Listed Endangered

**Conservation Status**

Global: Apparently secure but with cause for concern  
State: Critically imperiled due to rarity or vulnerability

**Description at this Location**

Conservation Rank: Not ranked  
Comments on Rank:

Detailed Description: 2009: Area 12302: 1 observed; shell was 10-12" long.

General Area: 2009: Area 12302: Backyard water garden.

General Comments:

Management

Comments:

**Location**

Survey Site Name: Robinson Pond  
Managed By:

County: Hillsborough

Town(s): Hudson

Size: 7.7 acres

Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2009: Area 12302: 16 Melba Drive, Hudson.

**Dates documented**

First reported: 2009-06-27

Last reported: 2009-06-27

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

## New Hampshire Natural Heritage Bureau - Animal Record

### Blanding's Turtle (*Emydoidea blandingii*)

## Legal Status

Federal: Not listed  
State: Listed Endangered

### Conservation Status

Global: Apparently secure but with cause for concern  
State: Critically imperiled due to rarity or vulnerability

### Description at this Location

Conservation Rank: Not ranked  
Comments on Rank:

Detailed Description: 2013: Area 13516: 1 adult observed, sex unknown.  
General Area: 2013: Area 13516: Roadside in residential area, near pond.  
General Comments:  
Management  
Comments:

### Location

Survey Site Name: Nesenkeag Brook  
Managed By:

County: Rockingham  
Town(s): Londonderry  
Size: 1.9 acres Elevation:

**Precision:** Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2013: Area 13516: Severance Drive, Londonderry. In road between houses, approx #16 and #18.

### Dates documented

First reported:	2013-06-03	Last reported:	2013-06-03
-----------------	------------	----------------	------------

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

## New Hampshire Natural Heritage Bureau - Animal Record

Eastern Hognose Snake (*Heterodon platirhinos*)**Legal Status**

Federal: Not listed  
State: Listed Endangered

**Conservation Status**

Global: Demonstrably widespread, abundant, and secure  
State: Critically imperiled due to rarity or vulnerability

**Description at this Location**

Conservation Rank: Not ranked  
Comments on Rank:

Detailed Description: 2013: Area 13481: 1 adult observed sex unknown. 2011: Area 12922: 3 hatchlings observed. 2005: Area 11711: 1 adult seen.  
General Area: 2013: Area 13481: Residential area with coniferous forest. 2011; Area 12922: At door of school. 2005: Area 11711: Residential garden.  
General Comments: 2013: Area 13481: Observation comment: snake was killed by landowner.  
Management  
Comments:

**Location**

Survey Site Name: Cutler Road, Litchfield  
Managed By:

County: Hillsborough  
Town(s): Litchfield  
Size: 11.5 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2013: Area 13481: Between #65 and #61 Page Road, Litchfield. 2011: Area 12922: Tabernacle Christian School in Litchfield. 2005: Area 11711: 21 Cutler Road, approx 200' off of road in garden.

**Dates documented**

First reported: 2005-08-15 Last reported: 2013-05-10

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

## New Hampshire Natural Heritage Bureau - Animal Record

Spotted Turtle (*Clemmys guttata*)**Legal Status**

Federal: Not listed  
State: Listed Threatened

**Conservation Status**

Global: Demonstrably widespread, abundant, and secure  
State: Imperiled due to rarity or vulnerability

**Description at this Location**

Conservation Rank: Good quality, condition and landscape context ('B' on a scale of A-D).  
Comments on Rank:

Detailed Description: 2015: Area 14083: 1 adult observed, sex unknown. 2005: Area 9306: 1 adult male turtle observed. 1992: Four adult turtles observed: one 12-14 year old with carapace 114 cm and plastron 92 cm, sex undetermined; one ca. 12 year old very active female with carapace 125 cm and plastron 100 cm; one 11 or 12 year old very inactive female with carapace 127 cm and plastron 100 cm; and one 14-15 year old female with carapace 115 cm and plastron 92 cm.

General Area: 2015: Area 14083: Residential yard [property backs up to wetlands associated with Chase Brook]. 2005: Area 9306: Residential lot surrounded by some agriculture. 1992: Adjacent to a large wetland.

General Comments: 1992: Drawings of each turtle's most distinctive spots and other markings included.  
Management  
Comments:

**Location**

Survey Site Name: Cutler Road, north of  
Managed By:

County: Hillsborough

Town(s): Litchfield

Size: 2.6 acres

Elevation: 180 feet

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2015: Area 14083: In yard at 21 Mayflower Drive, Litchfield. 2005: Area 9306: [Rte 3A ca. 2.8 miles north of the junction with Rte. 111 in Nashua.] 1992: Adjacent to a large wetland at 19 Woodburn Drive, near Cutler Road, [west of Rte. 102, in the southeast corner of Litchfield.]

**Dates documented**

First reported: 1992-06-08

Last reported: 2015-06-15

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.

## New Hampshire Natural Heritage Bureau - Animal Record

Wood Turtle (*Glyptemys insculpta*)**Legal Status**

Federal: Not listed  
State: Special Concern

**Conservation Status**

Global: Apparently secure but with cause for concern  
State: Rare or uncommon

**Description at this Location**

Conservation Rank: Fair quality, condition and/or landscape context ('C' on a scale of A-D).  
Comments on Rank:

Detailed Description: 2008: Area 11578: 1 adult seen.  
General Area: 2008: Area 11578: In backyard of observer.  
General Comments:  
Management  
Comments:

**Location**

Survey Site Name: Cutler Road, north of  
Managed By:

County: Hillsborough  
Town(s): Litchfield  
Size: 7.7 acres Elevation:

Precision: Within (but not necessarily restricted to) the area indicated on the map.

Directions: 2008: Area 11578: 5 Woodburn Drive, Litchfield.

**Dates documented**

First reported: 2008-06-21 Last reported: 2008-06-21

The New Hampshire Fish & Game Department has jurisdiction over rare wildlife in New Hampshire. Please contact them at 11 Hazen Drive, Concord, NH 03301 or at (603) 271-2461.



## Dube, Melilotus

---

**From:** Tuttle, Kim  
**Sent:** Wednesday, November 23, 2016 3:16 PM  
**To:** Dube, Melilotus  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Me too! Have a Happy Thanksgiving!

---

**From:** Dube, Melilotus  
**Sent:** Wednesday, November 23, 2016 3:10 PM  
**To:** Tuttle, Kim  
**Cc:** Marchand, Michael; Crickard, Ronald; Weber, Hans; Mudgett, Kirk  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Kim,

We originally scoped the Parmenter Rd. crossing for a 48" HDPE, however, the Design team has agreed to install a 48" RCP instead in order to help enhance the passage improvements. We also looked into a CMP for this location, but it was ruled out as this location sees standing water through much of the year and we had concerns for a CMP maintaining integrity for very long.

We will move forward with the sliplining as described below and the install of the 48" RCP at the Parmenter Rd crossing.

Thank you for your help with this, and I'm glad we could come up with a satisfactory resolution!

Meli

---

**From:** Tuttle, Kim  
**Sent:** Wednesday, November 23, 2016 9:36 AM  
**To:** Dube, Melilotus  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Hello Meli,

The proposal to slipline the eastern pipe with a corrugated pipe and the western pipe with a smooth plastic pipe and upsize the 36" CMP near Parmenter Rd. to a 48" pipe in order to increase passage there will compensate for the loss of passage opportunities at the smaller pipes. Upgrading to a 48" CMP or RCP near Parmenter Rd. under Rt. 102 should provide increased passage opportunities for reptiles, amphibians, and mammals including possibly bear to pass under Rt. 102. That would be a great improvement at this location.

Regards,

Kim Tuttle  
Wildlife Biologist  
NH Fish and Game  
11 Hazen Drive  
Concord, NH 03301  
603-271-6544

---

**From:** Dube, Melilotus  
**Sent:** Wednesday, November 23, 2016 8:46 AM  
**To:** Tuttle, Kim  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wldlife Concerns (NHB16-3090)

Kim,  
Here is another view.  
Meli

---

**From:** Tuttle, Kim  
**Sent:** Tuesday, November 22, 2016 2:45 PM  
**To:** Dube, Melilotus  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wldlife Concerns (NHB16-3090)

Could you send over an larger view aerial showing the location of the existing 36" CMP under NH102 located just south of Parmenter Road? It sounds promising.

---

**From:** Dube, Melilotus  
**Sent:** Tuesday, November 22, 2016 1:30 PM  
**To:** Tuttle, Kim  
**Cc:** Marchand, Michael  
**Subject:** FW: NHDOT Statewide 40871 Wldlife Concerns (NHB16-3090)

Kim,

The Design Team has been working to review all of the possible options for accomplishing the work at these locations.

First, we looked in to lining the western pipe with a corrugated plastic pipe as you requested below. The analysis showed the increased loss of capacity from lining with a corrugated pipe vs. a smooth pipe would not accommodate the larger storms (50-year storms) and Design does not feel comfortable accepting the risk of allowing water to back up along the roadway embankment in those situations.

We also looked in to several other alternatives for these locations, including the application of a spray-on liner, however, the existing dimensions do not allow for proper application in these instances. A variety of other techniques for replacement including trenchless pipe, trenchless pipe in steel casing, pipe jacked under the roadway and pipe with steel sleeve jacked under the roadway, were investigated. Unfortunately, these alternatives were determined to have a larger overall impact area and are too cost prohibitive to be included in the proposed resurfacing project.

We did investigate other locations in the project area where we could potentially increase organism passage in order to compensate for some of the lost passage opportunities as a result of the proposed slip lining. There is an existing 36" CMP under NH102 located just south of Parmenter Road, approximately 0.5 miles from the western pipe and approximately 1 mile from the eastern pipe which Design has indicated could be upsized to a 48" pipe. This crossing is extremely flat and is surrounded by palustrine emergent wetlands dominated by cattails on both sides and is directly connected even larger cattail wetlands nearby. We believe that this area is equally, if not more valuable for turtle habitat and increasing the size of the cross pipe here may provide for more of an increase in passage and habitat connectivity.

At this time, we would like to propose to slipline the eastern pipe with a corrugated pipe and the western pipe with a smooth plastic pipe and upsize the 36" CMP near Parmenter Rd. to a 48" pipe in order to increase passage at this location. Does this help alleviate some of your concerns?

Thank you,  
Meli

---

**From:** Weber, Hans  
**Sent:** Wednesday, November 16, 2016 10:30 AM  
**To:** Dube, Melilotus  
**Cc:** Mudgett, Kirk  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Meli,

As far as our analysis showed, having a corrugated slip line would cause the water to back up along the slope quite a ways. While the storms that would cause this event are not terribly common, it would be better to accommodate more passage by having a smooth lining instead of corrugated.

Hans

---

**From:** Dube, Melilotus  
**Sent:** Wednesday, November 16, 2016 10:23 AM  
**To:** Weber, Hans  
**Cc:** Mudgett, Kirk  
**Subject:** FW: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Hans,  
Kim has asked if the western pipe can be lined with a corrugated pipe?  
I think you said that you looked in to this and found it would not accommodate necessary flows?  
Meli

---

**From:** Tuttle, Kim  
**Sent:** Wednesday, November 16, 2016 10:04 AM  
**To:** Dube, Melilotus  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Meli,

Thanks for the update on the Bow-Hopkinton 40766 project. We were unaware that the sliplining has been dropped from the scope of the project. I can remove that one from the list.

I believe that wildlife passage in the western pipe will be lost due to sliplining with smooth bore plastic pipe. The reason I agreed to it initially was to compromise so that resources could be concentrated on the eastern pipe, which appears to be placed in a location closer to significant wetlands and may be used more frequently by wildlife. Although our first choice would be to slip line both with CMPs if sliplining proceeds, would it be possible to put in a 18" plastic pipe with interior corrugations in the western pipe? I know that plastic pipe with interior corrugations up to 24" is available. At least some small mammals that do not require as much traction should be able to use it.

Some opportunities for passage will still be lost as a result of downsizing the eastern pipe, mostly as a result of it becoming less attractive for wildlife due to the loss of light within the culvert (openness ratio). Sliplining it with an 18"

diameter corrugated metal pipe will still be significantly better than sliplining it with a smooth bore plastic or corrugated plastic pipe.

Thanks,

Kim Tuttle  
Wildlife Biologist  
NH Fish and Game  
11 Hazen Drive  
Concord, NH 03301  
603-271-6544

---

**From:** Dube, Melilotus  
**Sent:** Tuesday, November 15, 2016 12:22 PM  
**To:** Tuttle, Kim  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Kim,

First, I understand that there is often quite a bit of compromise for these kinds of projects that are primarily resurfacing with limited and targeted funding sources but also try to include minor drainage work on structures that really need help until a bigger project can come along and address all the needs fully. I did discuss the Bow-Hopkinton 40766 project with Kerry Ryan to find out exactly what the scenario was for her loss of passage and she told me that the proposed slip-lining you had discussed was actually dropped from the scope. Hopefully we can streamline these kinds of reviews in the future so that everyone understands the potential impacts vs. benefits, thresholds and expectations associated with slip-lining.

I believe the concern that you indicated had to do with the decrease in the diameter, the loss of traction due to the usual usage of a smooth bore plastic pipe for slip lining, and increased velocities. You also indicated that the western pipe could be slip-lined, assuming a normal smooth bore pipe, if the eastern pipe was replaced with a larger, non-plastic structure. At this time, it is outside of the scope of this project to replace either of these pipes completely due to the depth under the roadway. Design has run some calculations on the existing conditions and flow/velocities during a typical 24-hour 1-inch rain event and proposed an alternative:

#### Western Pipe

The existing 24" corrugated metal pipe has a 2.87% slope. The current velocity for a typical 24-hour 1-inch rain event is 2.16 feet per second, with a maximum water depth of 0.15 feet (1.8 inches). We can slipline the pipe with an 18" diameter smooth plastic pipe. A proposed 18" smooth plastic pipe will have a velocity of 3.78 feet per second with a maximum water depth of 0.12 feet (1.44 inches) for the same rain event. That would result in an increased velocity of 1.62 feet per second and decrease in water depth of 0.03 feet (0.36 inches).

#### Eastern Pipe

The existing 24" corrugated metal pipe has a 0.016% slope. The current velocity for a typical 24-hour 1-inch rain event is 1.8 feet per second with a maximum water depth of 0.17 feet (2.04 inches). We can slipline the pipe with an 18" diameter corrugated metal pipe. A proposed 18" corrugated metal pipe will have a velocity of 1.88 feet per second with a maximum water depth of 0.25 feet (3 inches) for the same rain event. That would result in an increased velocity of 0.08 feet per second and an increased maximum water depth of 0.08 feet (0.96 inches).

To summarize:

Line the eastern pipe with an 18" corrugated metal pipe in order to avoid smooth plastic as requested, which would result in a minimal increase in velocity of 0.08 feet per second. Line the western pipe with an 18" smooth plastic pipe, which would result in an increase in velocity of 1.62 feet per second. Please let me know if you think the changes in velocity and water depth will still pose a challenge for wildlife passage, and if so, what is an acceptable velocity for maintaining passage.

Thank you,  
Meli

---

**From:** Tuttle, Kim  
**Sent:** Monday, October 31, 2016 12:47 PM  
**To:** Dube, Melilotus  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Hi Meli,

We'll see what the design team has to say. This may be a good place to do some mitigation for other NHDOT jobs where we allowed sliplining noting at the time that we were losing passage opportunities for wildlife such as Bow-Hopkinton 40766 ( NHB16-1500) below:

Kim

Kim Tuttle  
Wildlife Biologist  
NH Fish and Game  
11 Hazen Drive  
Concord, NH 03301  
603-271-6544

**From:** Tuttle, Kim  
**Sent:** Thursday, July 21, 2016 10:51 AM  
**To:** 'Kerry Ryan'  
**Cc:** Magee, John  
**Subject:** RE: Bow-Hopkinton 40766 NHB16-1500

Kerry,

The NHFG Nongame and Endangered Species Program has reviewed NHB16-1500 (note corrected NHB number) for the proposed slip lining of an existing 48" CMP with a 42" plastic liner. The NHB database check identified the following species in the vicinity of the project:

American Eel (*Anguilla rostrata*) SC –  
Blanding's Turtle (*Emydoidea blandingii*) E --

Wood Turtle (*Glyptemys insculpta*) SC --

1Codes: "E" = Endangered, "T" = Threatened, "SC" = Special Concern

I spoke to John Magee, NHFG Fisheries Habitat Biologist, and he does not expect fisheries issues as the pipe appears to carry an intermittent stream. We do not expect impacts to Blanding's turtle as significant habitat does not appear to be present in the area of the project. Passage opportunities for wood turtle and other wildlife will be lessened even though the culvert is already impassable for movement upstream because of the significant perch at the outlet. The proposed lining will likely decrease passage opportunities for wood turtles attempting to travel downstream because of the pipe downsizing, smooth slippery interior and increased water velocities through the pipe.

This is another example of a culvert under a major highway slip lined with smooth bore plastic, effectively eliminating all opportunities for wildlife passage, such as the slip lining of Location 10, 36" RCP at MM 30.8 under the FEET in Bow 29024. We'll add this one to the list of these jobs to bring to DOT at some later date for some kind of mitigation consideration. Please feel free to call me if you have any questions about this review.

Sincerely,

Kim Tuttle  
Certified Wildlife Biologist  
NH Fish and Game  
11 Hazen Drive  
Concord, NH 03301  
603-271-6544

---

**From:** Dube, Melilotus  
**Sent:** Monday, October 31, 2016 12:27 PM  
**To:** Tuttle, Kim; Dube, Melilotus  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Kim,

It may be outside of the scope of this work to replace one of the pipes because they are so deep under the roadway. I have relayed our coordination to the Design team and am waiting to hear back from them. If it becomes necessary, would you be willing to visit the site with us to discuss any possible solutions?

Meli

---

**From:** Tuttle, Kim [<mailto:Kim.Tuttle@wildlife.nh.gov>]  
**Sent:** Friday, October 28, 2016 11:10 AM  
**To:** Dube, Melilotus  
**Cc:** Marchand, Michael  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Hi Meli,

I do think that sliplining both pipes will result in the loss of crossing opportunities for protected reptiles and amphibians as the smooth bore pipes will be smaller and more slippery resulting in increased velocities when they are most likely to be carrying water during the critical spring migration to breeding pools and wetlands. Wood, spotted, and Blanding's turtle seek out amphibian breeding pools during the spring to feed on amphibian eggs and larvae. I could live with the proposed sliplining of the western pipe if the eastern pipe was replaced with a larger diameter culvert that is not smooth bore plastic. If I am reading the topos and aerials correctly, it seems that the eastern pipe is most closely located at the wetland thread crossing visible on the aerial west of the powerline.

Thanks,  
Kim

Kim Tuttle  
Wildlife Biologist  
NH Fish and Game  
11 Hazen Drive  
Concord, NH 03301  
603-271-6544

---

**From:** Dube, Melilotus [<mailto:MDube@dot.state.nh.us>]  
**Sent:** Friday, October 28, 2016 10:13 AM  
**To:** Tuttle, Kim  
**Subject:** RE: NHDOT Statewide 40871 Wlidlfe Concerns (NHB16-3090)

Kim,  
We completed the wetland delineations for the two slip lining locations. See attached pictures and maps. As it turns out, these locations are not streams but serve as connections between forested wetlands (PFO1E) on either side of the roadway. It seems like these pipes probably only carry any notable amount of water during the spring and/or large rain events. Additionally, the survey in this area indicated that the slope on the eastern pipe is 0.016% and the slope on the western pipe is 2.87%. Given the nature and elevations of these pipes, do you anticipate wildlife passage issues here?  
Meli

---

**From:** Tuttle, Kim [<mailto:Kim.Tuttle@wildlife.nh.gov>]  
**Sent:** Wednesday, October 26, 2016 12:47 PM  
**To:** Dube, Melilotus  
**Cc:** Large, Sarah  
**Subject:** RE: NHDOT Statewide 40871 Wlidlfe Concerns (NHB16-3090)

Hi Meli,

We are concerned about the sliplining and the loss of wildlife passage opportunities that will result from it. We would like more information on that part of the job. I'll write up some general recommendations for the rest of the project after we resolve that issue.

Kim

---

**From:** Dube, Melilotus [<mailto:MDube@dot.state.nh.us>]  
**Sent:** Wednesday, October 26, 2016 12:17 PM  
**To:** Tuttle, Kim  
**Cc:** Large, Sarah  
**Subject:** RE: NHDOT Statewide 40871 Wlidlfe Concerns (NHB16-3090)

Kim,  
We weren't able to locate the two slip lining locations during our last field visit, but we are going back out with the Design team tomorrow to get the wetland delineations and pictures. I believe they are both Tier 1 perennial streams. All the drainage work discussed below is located in Londonderry, refer to the topo map I attached before for approximate locations of the slip lining. I can pinpoint them for you tomorrow if you would like. This project is set to advertise early

Spring 2017, to be constructed during the 2017 season but I'm not exactly sure when each section will be done or when the drainage work will be done in each section. This may be something that we won't know until the project goes out for bid and the winning contractor sets his schedule so I think if we are concerned about time of year, we should just put in a restriction from the start so they know what they are working with.

Meli

---

**From:** Tuttle, Kim [<mailto:Kim.Tuttle@wildlife.nh.gov>]  
**Sent:** Wednesday, October 26, 2016 11:32 AM  
**To:** Dube, Melilotus  
**Cc:** Large, Sarah  
**Subject:** RE: NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Hi Meli,

When is the work proposed? Do you have photos of these 2 pipes? Are they for seasonal drainage, intermittent stream, etc.? What town?

Slipline two 24" pipes south of Young Road

Kim

---

**From:** Dube, Melilotus [<mailto:MDube@dot.state.nh.us>]  
**Sent:** Wednesday, October 26, 2016 11:22 AM  
**To:** Tuttle, Kim  
**Cc:** Large, Sarah  
**Subject:** NHDOT Statewide 40871 Wildlife Concerns (NHB16-3090)

Good morning Kim,

I am reviewing a statewide resurfacing project that also includes minor drainage work, guardrail adjustments, etc. I submitted each section separately to NHB (and will list below for your reference) but only one came back with known NHFG records in the project area.

Durham-Dover (US4 from Back River Rd/Cedar Point Rd to Bridge 174/034): NHB16-3087

Windham-Salem (NH11 from Delahanty Rd to Autumn Woods Rd): NHB16-3098

Kingston (NH125 from West Park Shore Rd to NH107): NHB16-3116

**Hudson-Londonderry (NH102 from NH3A to I93): NHB16-3090 (attached), NHB report identified the following NHFG records:**

1. Blanding's Turtle
2. Eastern Hognose Snake
3. Spotted Turtle
4. Wood Turtle

The work in this section consists of the following:

1. Resurfacing within existing edge of pavement throughout, including various section of pavement inlay and overlay with associated gravel shoulder leveling
2. Resetting guardrail block and rail with posts remaining in place, replacement of end units with no extensions proposed
3. Replace sidewalk tip down units near Alvirne Highschool to meet ADA standards
4. Drainage (map attached)
  - a. Replace in-kind a 36" CMP just south of Parmenter Road (pictures attached)
  - b. Replace 3 slope pipes just north of Parmenter Road (pictures attached)

- c. Slipline two 24" pipes south of Young Road
- d. Replace a CMP sluice with a catch basin and slope pipe to outlet located just south of the northern intersection with Buttrick Road (picture attached)

Do you anticipate any of the work described above to impact these species? If so, can we draft some language for a commitment to include in the contract to avoid work during certain times such as nesting season, stop work if turtles/snakes are observed, etc? Let me know what you think!

Thank you,  
Meli





## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
New England Ecological Services Field Office  
70 COMMERCIAL STREET, SUITE 300  
CONCORD, NH 03301  
PHONE: (603)223-2541 FAX: (603)223-0104  
URL: [www.fws.gov/newengland](http://www.fws.gov/newengland)

Consultation Code: 05E1NE00-2017-SLI-0024

October 06, 2016

Event Code: 05E1NE00-2017-E-00027

Project Name: Statewide 40871 Hudson-Londonderry

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

### To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior  
Fish and Wildlife Service

Project name: Statewide 40871 Hudson-Londonderry

## Official Species List

**Provided by:**

New England Ecological Services Field Office  
70 COMMERCIAL STREET, SUITE 300  
CONCORD, NH 03301  
(603) 223-2541  
<http://www.fws.gov/newengland>

**Consultation Code:** 05E1NE00-2017-SLI-0024

**Event Code:** 05E1NE00-2017-E-00027

**Project Type:** TRANSPORTATION

**Project Name:** Statewide 40871 Hudson-Londonderry

**Project Description:** Resurfacing including pavement inlay and overlay, drainage, guardrail and sidewalk work

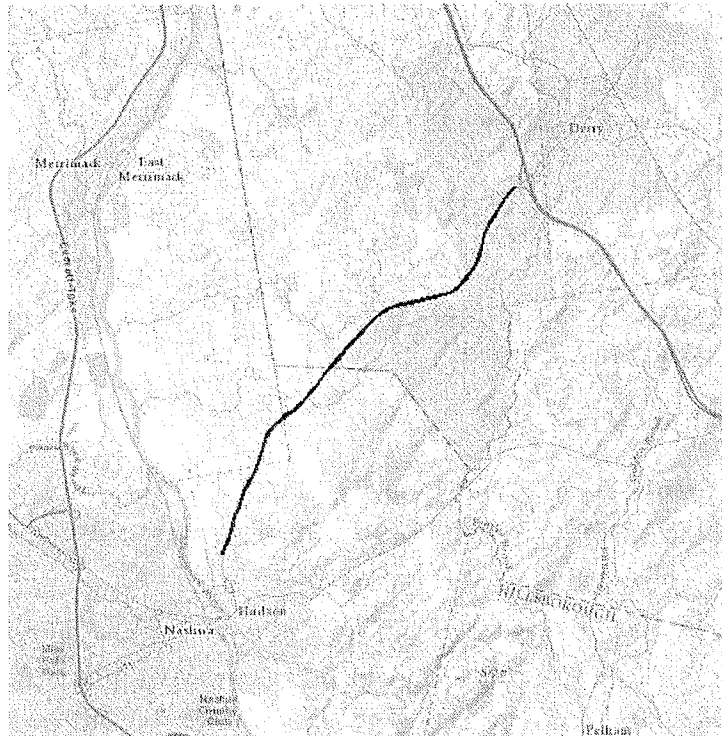
**Please Note:** The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.



United States Department of Interior  
Fish and Wildlife Service

Project name: Statewide 40871 Hudson-Londonderry

**Project Location Map:**



**Project Coordinates:** The coordinates are too numerous to display here.

**Project Counties:** Hillsborough, NH | Rockingham, NH



United States Department of Interior  
Fish and Wildlife Service

Project name: Statewide 40871 Hudson-Londonderry

## Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Mammals	Status	Has Critical Habitat	Condition(s)
Northern long-eared Bat ( <i>Myotis septentrionalis</i> ) Population: Wherever found	Threatened		



United States Department of Interior  
Fish and Wildlife Service

Project name: Statewide 40871 Hudson-Londonderry

## **Critical habitats that lie within your project area**

There are no critical habitats within your project area.

## Dube, Melilotus

---

**From:** Dube, Melilotus  
**Sent:** Friday, November 18, 2016 10:49 AM  
**To:** 'vonOettingen, Susi'  
**Cc:** Martin, Rebecca  
**Subject:** RE: NHDOT Statewide 40871 NLEB Range-Wide Programmatic Informal Consultation  
**Attachments:** Durham-Dover Topo.pdf; Hudson-Londonderry Topo.pdf; Kingston Topo.pdf; Windham-Salem Topo.pdf; Durham-Dover IPAC.pdf; Hudson-Londonderry IPAC.pdf; Kingston IPAC.pdf; Windham-Salem IPAC.pdf; 40871 AppendixBProject SubmittalForm.pdf

Susi,

Please find the attached Range-Wide Programmatic Consultation for Northern Long-eared Bat Project Submittal Form for the subject project.

This project involves primarily resurfacing with some minor drainage repair work on several sections of roadway throughout southern NH, details as follows:

US4 in Durham-Dover: IPAC 05E1NE00-2017-SLI-0023 indicates red knot, roseate tern, small whorled pogonia and NLEB. Work is limited to strictly resurfacing within existing edge of pavement with no drainage work, tree clearing or bridge work proposed. There are no anticipated impacts to any federally protected species.

NH125 in Kingston: IPAC 5E1NE00-2017-SLI-0038 indicates NLEB. Work is limited to strictly resurfacing within existing edge of pavement with no drainage work, tree clearing or bridge work proposed. There are no anticipated impacts to NLEB.

NH111 in Windham-Salem: IPAC 05E1NE00-2017-SLI-0026 indicates NLEB. Work includes primarily resurfacing with one proposed culvert replacement in Salem which will impact jurisdictional wetlands and maintenance of existing stormwater detention basins in Windham. Stormwater detention basin maintenance will include clearing brush around the perimeter of the basins, however, a site visit revealed that no suitable NLEB habitat will be removed as there are no trees 3" DBH or greater within the clearing area.

NH102 in Hudson-Londonderry: IPAC 05E1NE00-2017-SLI-0024 indicates NLEB. Work includes primarily resurfacing with drainage improvements including one cross culvert replacement, three slope pipe replacements, two cross culvert slip-lining and one replacement of an existing metal sluice with a drop inlet drain basin and slope pipe. The drainage work will require tree clearing at four locations spanning approximately 1 mile of roadway in the vicinity of Parmenter Road in Londonderry and will total 0.04 acres (1,650 square feet). In order to maintain proposed project schedules, this clearing will occur during the NLEB active season from April 15-August 31.

Despite the overall length of the project, the tree clearing is limited to an area approximately 1 mile in length. Per your agreement below, this project does meet the criteria for the Range-wide Programmatic Biological Assessment and is a **May Affect, Likely to Adversely Affect** project due to the necessity of completing the clearing during the NLEB active season. As noted on the Project Submittal Form, the project will include the following AMMs: General AMM1, Tree Removal AMM1, Tree Removal AMM3, Tree Removal AMM7 and Lighting AMM1. All other AMMs are not applicable to the work as proposed, as noted on the form. General AMM1 will be met through the inclusion of an educational flyer in the contract which will be posted on the job site during construction.

Coordination with NHFG and NHHNB for concerns regarding state protected species is in process.

Please let me know if you need any additional information to complete your review.

Thank you!  
Meli

Melilotus M. Dube  
Environmental Manager  
NHDOT Bureau of Environment  
7 Hazen Drive  
Concord, NH 03301  
(603) 271-1612  
**NEW EMAIL:** [Melilotus.Dube@dot.nh.gov](mailto:Melilotus.Dube@dot.nh.gov)

**From:** vonOettingen, Susi [[mailto:susi\\_vonoettingen@fws.gov](mailto:susi_vonoettingen@fws.gov)]  
**Sent:** Wednesday, November 16, 2016 8:27 AM  
**To:** Dube, Melilotus  
**Cc:** Martin, Rebecca  
**Subject:** Re: NHDOT use of FHWA/USFWS Programmatic Consultation for NLEB on long projects

Hi Meli,

Yes, I think you can use the Programmatic consult form. It just doesn't make sense otherwise given the very limited potential impacts, if habitat is even present...

Susi

\*\*\*\*\*

Susi von Oettingen  
Endangered Species Biologist  
New England Field Office  
70 Commercial Street, Suite 300  
Concord, NH 03301  
(W) 603-223-2541 ext. 6418  
*Please note my new extension.*

[www.fws.gov/newengland](http://www.fws.gov/newengland)

On Wed, Nov 16, 2016 at 8:23 AM, Dube, Melilotus <[Melilotus.Dube@dot.nh.gov](mailto:Melilotus.Dube@dot.nh.gov)> wrote:

Hi Susi,

I have two projects that meet the criteria for the FHWA Programmatic Consultation for Indiana Bat and Northern Long-eared Bat EXCEPT for the total project length that I would like to check with you about:

Grantham-Enfield 40944: 7.2 miles on Interstate 89 (MM43.6-MM50.8)

This is primarily a resurfacing project with minor drainage work that will require a wetlands permit. There is no tree clearing or bridge work proposed.

Statewide 40871: 4 locations throughout southern NH totaling 17.2 miles

This project involves primarily resurfacing with some minor drainage work that will require a wetlands permit spanning 4 different sections including NH102 in Hudson-Londonderry, NH111 in Windham-Salem, US4 in Durham-Dover, and NH125 in Kingston. The only section with proposed tree clearing is NH102 in Hudson-Londonderry. This section is 8.5 miles long and includes drainage work near the intersection with Parmenter Road in Londonderry that will require tree clearing to access the culverts. This clearing will include 4 small pockets spread out over approximately a 1 mile stretch of roadway and will total 0.04 acres (1,650 square feet) and will be located within 100' of the roadway.

Given the limited scope of work, may I use the Programmatic Consultation form for this projects? I understand that Biological Assessment is applicable for projects 5 miles in length or less, however, the Grantham-Enfield 40944 project does not propose any clearing and the Statewide 40871 project proposes a minimal amount of clearing within a 1 mile stretch of road. Please let me know what you think and if it is acceptable to review these projects using the Programmatic Consultation form, I will submit these with appropriate documentation.

Thank you,

Meli

Melilotus M. Dube

Environmental Manager

NHDOT Bureau of Environment

7 Hazen Drive

Concord, NH 03301

(603) 271-1612

**NEW EMAIL:** [Melilotus.Dube@dot.nh.gov](mailto:Melilotus.Dube@dot.nh.gov)



Federal Highway Administration (FHWA), Federal Railroad  
Administration (FRA), and Federal Transit Administration (FTA)

Range-wide Programmatic Consultation for  
Indiana Bat and Northern Long-eared Bat

**Project Submittal Form**

*Updated May 2016*

In order to use the range-wide programmatic consultation to fulfill Endangered Species Act consultation requirements, transportation agencies must use this submittal form (or a comparable Service approved form) to provide project-level information for all actions that may affect the Indiana bat and/or northern long-eared bat (NLEB). The completed form should be submitted to the appropriate U.S. Fish and Wildlife Service (Service) Field Office prior to project commencement. For more information, see the Standard Operating Procedure for Site Specific Project(s) Submission in the User's Guide.

By submitting this form, the transportation agency ensures that the proposed project(s) adhere to the criteria and conditions of the range-wide programmatic consultation, as outlined in the biological assessment (BA) and biological opinion (BO). Upon submittal of this form, the appropriate Service Field Office may review the project-specific information provided and request additional information. For projects that may affect, but are not likely to adversely affect (NLAA) the Indiana bat and/or NLEB, if the applying transportation agency is **not** contacted by the Service with any questions or concerns within 14 calendar days of form submittal, it may proceed under the range-wide programmatic consultation and assume concurrence of the NLAA determination made by the Service in the BO. For projects that may affect, and are likely to adversely affect (LAA) the Indiana bat and/or the NLEB, the appropriate Service Field Office will respond (see recommended response letter template) within 30 calendar days of receiving a complete project-level submission, which includes, but may not be limited to this completed form.

Further instructions on completing the submittal form can be found by hovering your cursor over each text box.

---

1. Date: November 16, 2016

2. Lead agency: Federal Highway Administration

*This refers to the Federal governmental lead action agency initiating consultation; select FHWA, FRA or FTA as appropriate*

3. Requesting agency: NH Department of Transportation

*This refers to the transportation agency completing the form (it may or may not be the same as the Lead Agency).*

• Name: Melilotus Dube

• Title: Environmental Manager

---

- Phone: (603) 856-4034
- Email: Melilotus.Dube@dot.nh.gov

4. Consultation code<sup>1</sup>: 05E1NE00-2017-SLI-0024, 05E1NE00-2017-SLI-0026, 05E1NE00-2017-SLI-0023, 05E1NE00-2017-SLI-0038

5. Project name(s): Statewide 40871

6. Project description:

*Please attach additional documentation or explanatory text if necessary*

The proposed project will include resurfacing and minor drainage repairs on four sections of roadway totaling 17.2 miles throughout southern NH including NH102 in Hudson-Londonderry (8.5 miles), NH111 in Windham-Salem (3 miles), US4 in Durham-Dover (0.6 miles) and NH125 in Kingston (5.1 miles). The Durham-Dover (05E1NE00-2017-SLI-0023) and Kingston (05E1NE00-2017-SLI-0038) sections are limited to strictly paving. The Windham-Salem (05E1NE00-2017-SLI-0026) section includes primarily paving with one culvert replacement which will require a wetlands permit but will not require any tree clearing or bridge work. The Hudson-Londonderry section (05E1NE00-2017-SLI-0024) will require tree clearing to access to drainage work at four locations spanning approximately 1 mile of roadway in the vicinity of the intersection with Parmenter Road in Londonderry. The proposed clearing will total 0.04 acres (1,650 square feet). This clearing will be completed during the 2017 active season (April 15-August 31)

7. Project location (county, state): Strafford/Hillsborough/Rockingham Counties  
*If not delineated in IPaC, attach shape files*

8. For other species from IPaC official species list:

- ✓ No effect – project(s) are inside the range, but no suitable habitat (see additional information attached). Durham-Dover: red knot, roseate tern, small whorled pogonia  
Work in this area is strictly resurfacing within existing roadway
- May affect – see additional information provided for those species (see attached or forthcoming).

**Please confirm and identify how the proposed project(s) adhere to the criteria of the BO by completing the following (see User Guide Section 2.0):**

---

<sup>1</sup> Available through IPaC System Official Species List: <https://ecos.fws.gov/ipac/>

## NO EFFECT

9. For Indiana bat/NLEB, if applicable, select your no effect determination:

No effect – project(s) are outside the species' range. *submittal form complete*

No effect – project(s) are inside the species range but no suitable forested bat habitat; must also be greater than 0.5 miles from any hibernaculum. *submittal form complete*

No effect – project(s) do not involve any construction activities (e.g., bridge assessments, property inspections, planning and technical studies, property sales, property easements, and equipment purchases). *submittal form complete*

No effect – project(s) are completely within existing road/rail surface and do not involve percussive or other activities that increase noise above existing traffic/background levels (e.g., road line painting). *submittal form complete*

No effect – project(s) includes maintenance, alteration, or demolition of bridge(s)/structure(s) and indicate(s) no signs of bats from results of a bridge/structure assessment. *submittal form complete*

*Otherwise, please continue below.*

## MAY AFFECT, NOT LIKELY TO ADVERSELY EFFECT – W/O AMMS

10. For Indiana bat/NLEB, if applicable, select your may affect, NLAA determination (without implementation of AMMs):

NLAA – project(s) are inside the range and suitable bat habitat is present, but **negative** bat presence/absence (P/A) surveys; must also be greater than 0.5 miles from any hibernaculum. *submittal form complete*

NLAA – project(s) within suitable bat habitat that involve maintenance of existing facilities (e.g., rest areas, stormwater detention basins) but do not remove or alter the habitat (e.g., mowing, brush removal). *submittal form complete*

NLAA – project(s) within 300 feet of existing road/rail surfaces in areas that contain suitable habitat but do not remove or alter the habitat (e.g., mowing, brush removal). *submittal form complete*

NLAA – project(s) limited to slash pile burning. *submittal form complete*

NLAA –project(s) are limited to wetland or stream protection activities associated with compensatory wetland mitigation that do not clear suitable habitat. *submittal form complete*

---

*Otherwise, please continue below.*

MAY EFFECT, NOT LIKELY TO ADVERSELY AFFECT – WITH AMMs

11. For Indiana bat/NLEB, if applicable, document your may affect, NLAA determination by completing the following section (**with implementation of AMMs**; use #13 to document AMMs).

Affected Resource/Habitat Type:

a. Trees

Verify that all tree removal occurs greater than 0.5 mile from any hibernaculum:

Verify that the project is within 100 feet of existing road/rail surfaces:

Verify that no documented Indiana bat and/or NLEB roosts and/or surrounding summer habitat within 0.25 mile of documented roosts will be impacted: ☐

Verify that all tree removal will occur outside the active season (i.e., will occur in winter)<sup>2</sup>:

Acres of trees proposed for removal:

b. Bridge/Structure Work Projects

Proposed work:

Timing of work:

Evidence of bat activity on/in bridge/structure? Y/N

Verify that work will be conducted outside the active season, or if during the active season, verify that no roosting bats will be harmed or disturbed in any way:

Verify that work will not alter roosting potential in any way:

Verify that all applicable lighting minimization measures will be implemented: ☐

c. Other (please explain)

---

<sup>2</sup> Coordinate with the local Service Field Office for appropriate dates.

MAY AFFECT, LIKELY TO ADVERSELY AFFECT

12. For Indiana bat/NLEB, if applicable, document your may affect, LAA determination by completing the following section (use #13 to document AMMs).

Affected Resource/Habitat Type:

a. Trees

Verify that all tree removal occurs greater than 0.5 mile from any hibernaculum: ☒

Project Location:

0-100 feet from edge of existing road/rail surface ☒

100-300 feet from edge of existing road/rail surface ☐

Verify that no documented Indiana bat roosts or surrounding summer habitat within 0.25 mile of documented roosts will be impacted between May 1 and July 31: ☒

Verify that no documented NLEB roosts or surrounding summer habitat within 150 feet of documented roosts will be impacted between June 1 and July 31: ☒

Timing of tree removal: Spring/Summer 2017

Acres of trees proposed for removal: 0.04 acres (1,650 square feet)

b. Bridge/Structure Work Projects

Proposed work: none

Timing of work: n/a

Verify no signs of a colony: ☐

Verify that work will not alter roosting potential in any way: ☐

13. For Indiana bat/NLEB, **if applicable to the action type**, the following AMMs will be implemented<sup>3</sup> unless P/A surveys and/or bridge assessments document that the species are not likely to be present:

General AMM 1(required for all projects): ☒ NHDOT will include an education flyer in the contract documents which will be posted on the job site

<sup>3</sup> See AMMs Fact Sheet (Appendix C) for more information on AMMs

Tree Removal AMM 1: ☒  
Tree Removal AMM 2 (required for NLAA): ☐ N/A  
Tree Removal AMM 3 (required for all projects): ☒  
Tree Removal AMM 4 (required for NLAA): ☐ N/A  
Tree Removal AMM 5 (required for LAA): ☐ N/A  
Tree Removal AMM 6 (required for LAA): ☐ N/A

Tree Removal AMM 7 (required for LAA): ☒

Bridge AMM 1: ☐ N/A  
Bridge AMM 2 (required for all projects during active season): ☐ N/A  
Bridge AMM 3 (required for NLAA during active season): ☐ N/A  
Bridge AMM 4 (required for NLAA during active season): ☐ N/A  
Bridge AMM 5 (required for all projects): ☐ N/A

Structure AMM 1 (required for all Indiana bat projects, required for NLAA NLEB projects): ☐ N/A  
Structure AMM 2 (required for all Indiana bat projects, required for NLAA NLEB projects): ☐ N/A  
Structure AMM 3 (required for all Indiana bat projects, required for NLAA NLEB projects): ☐ N/A  
Structure AMM 4 (required for all Indiana bat projects, required for NLAA NLEB projects): ☐ N/A

Lighting AMM 1 (required for all projects during the active season): ☒  
Lighting AMM 2 (required for all projects): ☐ N/A- no maintenance or new lighting proposed

Hibernacula AMM 1 (required for all projects): ☐ N/A

14. For Indiana bat, if applicable, compensatory mitigation measures will also be required to offset adverse effects on the species (see Section 2.10 of the BA). Please verify the mechanism in which compensatory mitigation will be implemented and that sufficient information is provided to the Service.

Range-wide In Lieu Fee Program, The Conservation Fund ☐

State, Regional, Recovery Unit-Specific In Lieu Fee Program  
Name:

Conservation Bank,  
Name:  
Location:

Local Conservation Site(s)  
Name:  
Location:  
Description:

# Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding

## Appendix B Certification – Projects with Minimal Potential to Cause Effects

Date Reviewed: 11/1/2016

Project Name: Statewide

State Number: 40871

FHWA Number: X-A004(513)

Environmental Contact: Meli Dube

DOT

Email Address: Melilotus.Dube@dot.nh.gov

Project Manager: Tobey Reynolds

**Project Description:** Resurfacing and drainage repairs on four sections of roadway including NH102 in Hudson, Litchfield and Londonderry, NH111 in Windham and Salem, US4 in Durham-Dover, and NH125 in Kingston. The work will be primarily resurfacing within the existing edge of pavement, resetting guardrail block and rail and replacing end units with no extension where necessary. Drainage work will include the replacement of a 24" CMP in Salem, replacement of a 36" CMP in Londonderry, replacement of three 12" CMP slope pipes in Londonderry, slip-lining two 24" CMPs in Londonderry and replacing an existing metal sluice with a new drop-inlet drain-basin in Londonderry. Other additional activities include replacing existing sidewalk tip down units with ADA compliant tip down units at crosswalk locations.

Please select the applicable undertaking type(s):

<input checked="" type="checkbox"/>	1. Modernization and general highway maintenance <u>that may require additional highway right-of-way or easement</u> , and which is <u>not within the boundaries of a historic property or district</u> , including:
	a. Culvert replacement when the culvert is less than 60" in diameter and excavation for replacement is limited to previously disturbed areas
	b. guardrail replacement, provided any extension does not connect to a bridge older than 50 years, and there is no change in access associated with the extension
<input checked="" type="checkbox"/>	2. Non-historic bridge and culvert maintenance, renovation, or total replacement, <u>that may require minor additional right-of-way or easement</u> , and which is <u>not within the boundaries of a historic property or district</u> , including:
	a. replacement of maintenance of drainage pipes and culverts made of steel, plastic and concrete Choose an item.
<input type="checkbox"/>	3. Historic bridge maintenance activities within the limits of existing right-of-way, including:
	Choose an item.
	Choose an item.
<input type="checkbox"/>	4. Stream stabilization and restoration activities (including removal of debris or sediment obstructing the natural waterway, or any non-invasive action to restore natural conditions).
<input checked="" type="checkbox"/>	5. Construction of bicycle lanes and pedestrian walkways, sidewalks, shared-use paths and facilities, small passenger shelters, and alterations to facilities or vehicles in order to make them accessible for elderly and handicapped persons, <u>not within the boundaries of a historic property or district</u> .
<input type="checkbox"/>	6. Installation of bicycle racks, <u>not within the boundaries of a historic property or district</u> .
<input type="checkbox"/>	7. Recreational trail construction, <u>not within the boundaries of a historic property or district</u> .
<input type="checkbox"/>	8. Recreational trail maintenance when done on existing alignment.
<input type="checkbox"/>	9. Modernization, maintenance, and safety improvements of railroad facilities within the existing railroad or highway right-of-way, <u>not within the boundaries of a historic property or district, and no historic railroad features are impacted</u> , including, but not limited to:
	Choose an item.
	Choose an item.
<input type="checkbox"/>	10. Acquisition or renewal of scenic, conservation, habitat, or other land preservation easements

# Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding

## Appendix B Certification – Projects with Minimal Potential to Cause Effects

### ☐ 11. Installation of Intelligent Transportation Systems.

Please describe how this project is applicable under Appendix B of the Programmatic Agreement.

This project meets the intent of Appendix B of the Programmatic Agreement because it is limited to maintenance and minor upgrades of existing roadway, drainage and sidewalk facilities. The resurfacing and guardrail resetting are allowable activities under Appendix A of the Programmatic Agreement, however, the drainage and sidewalk work are qualified for review under Appendix B of the Programmatic Agreement. The project is not located within any historic districts or boundaries of historic properties and will remain entirely within the existing State right-of-way and easements.

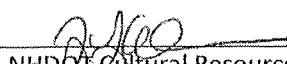
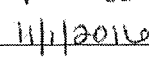
NHDOT in-house projects: Please append photographs, USGS maps, design plans and as-built plans, if available, for review.

LPA projects: Please submit this Certification Form along with the Transportation RPR

#### Coordination Efforts:

Has an RPR been submitted to NHDOT for this project?	No	NHDHR R&C # assigned?	Click here to enter text.
Please identify public outreach effort contacts; method of outreach and date:			
Letters detailing the scope of work were sent to the Towns, including the planning board, board of selectmen, conservation commission and historical societies, requesting input and feedback on November 1, 2016.			

Finding: (To be filled out by NHDOT Cultural Resources Staff )

<input checked="" type="checkbox"/> <b>No Potential to Cause Effects</b>	<input type="checkbox"/> <b>No Historic Properties Affected</b>
This finding serves as the Section 106 Memorandum for your environmental documents, no further coordination is necessary.	
<input type="checkbox"/> This project does <i>not</i> comply with Appendix B, and will continue under the Section 106 review process outlined in 36 CFR 800.3-800.7. Please contact NHDOT Cultural Resources Staff to determine next steps.	
<p>NHDOT comments: The Hills National Register of Historic Places site is adjacent to the work in Hudson, however the project will not impact that property. No concerns as long as none of the above organizations voice any concern with historic resources.</p> <p>   </p> <p> NHDOT Cultural Resources Staff Date </p>	

Coordination of the Section 106 process should begin as early as possible in the planning phase of the project (undertaking) so as not to cause a delay.

Project sponsors should not predetermine a Section 106 finding under the assumption that an undertaking conforms to the types listed in Appendix B until this form is signed by the NHDOT Bureau of Environment Cultural Resources Program staff.

Every project shall be coordinated with, and reviewed by the NHDOT-BOE Cultural Resources Program in accordance with the Cultural Resources Programmatic Agreement among the Advisory Council on Historic Preservation, Federal Highway Administration, NH Department of Transportation, and the State Historic Preservation Office. In accordance with the Advisory Council's regulations, we will continue to consult, as appropriate, as this project proceeds.

If any portion of the undertaking is not entirely limited to any one or a combination of the types specified in Appendix B (with, or without a portion that is included as a type listed in Appendix A), please continue discussions with NHDOT Cultural Resources staff.

**Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding**

**Appendix B Certification – Projects with Minimal Potential to Cause Effects**

This No Potential to Cause Effect or No Historic Properties Affected project determination is your Section 106 finding, as defined in the Programmatic Agreement.

Should project plans change, please inform the NHDOT Cultural Resources staff in accordance with Stipulation VII of the Programmatic Agreement.





US Army Corps  
of Engineers ®  
New England District

**U.S. Army Corps of Engineers**  
**New Hampshire Programmatic General Permit (PGP)**  
**Appendix B - Corps Secondary Impacts Checklist**  
**(for inland wetland/waterway fill projects in New Hampshire)**

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to “work” include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See PGP, GC 5 regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

<b>1. Impaired Waters</b>	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See <a href="http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm">http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm</a> to determine if there is an impaired water in the vicinity of your work area.*		X
<b>2. Wetlands</b>	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, shellfish beds, special wetlands and vernal pools (see PGP, GC 26 and Appendix A)? Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) website, <a href="http://www.nhnaturalheritage.org">www.nhnaturalheritage.org</a> , specifically the book <u>Natural Community Systems of New Hampshire</u> .		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres.		X
2.6 What is the size of the existing impervious surface area?	N/A	
2.7 What is the size of the proposed impervious surface area?	N/A	
2.8 What is the % of the impervious area (new and existing) to the overall project site?	N/A	
<b>3. Wildlife</b>	Yes	No
3.1 Has the NHB determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require a NHB determination.)	X	
3.2 Would work occur in any area identified as either “Highest Ranked Habitat in N.H.” or “Highest Ranked Habitat in Ecological Region”? (These areas are colored magenta and green, respectively, on NH Fish and Game’s map, “2010 Highest Ranked Wildlife Habitat by Ecological Condition.”) Map information can be found at: <ul style="list-style-type: none"> <li>• PDF: <a href="http://www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm">www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm</a>.</li> <li>• Data Mapper: <a href="http://www.granit.unh.edu">www.granit.unh.edu</a>.</li> <li>• GIS: <a href="http://www.granit.unh.edu/data/downloadfreedata/category/databycategory.html">www.granit.unh.edu/data/downloadfreedata/category/databycategory.html</a>.</li> </ul>		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the PGP, GC 21?	N/A	N/A

4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?	X	
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?	N/A	N/A
5. Historic/Archaeological Resources		
If a minor or major impact project, has a copy of the Request for Project Review (RPR) Form ( <a href="http://www.nh.gov/nhdhr/review">www.nh.gov/nhdhr/review</a> ) been sent to the NH Division of Historical Resources as required on Page 5 of the PGP?**		X

\*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.

\*\* If project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

Statewide 40871 (NH102 in Londonderry) Wetland Impact Photos  
Standard Dredge and Fill Application  
Photos Taken by Meli Dube, October 2016



Figure 1. Wetland Impact Location A- replace 36" CMP with 48" RCP



Figure 2. Wetland Impact Location A- replace 36" CMP with 48" RCP

Statewide 40871 (NH102 in Londonderry) Wetland Impact Photos  
Standard Dredge and Fill Application  
Photos Taken by Meli Dube, October 2016



Figure 3. Wetland Impact Location B- replace 36" CMP with 48" RCP



Figure 4. Wetland Impact Location B- replace 36" CMP with 48" RCP

Statewide 40871 (NH102 in Londonderry) Wetland Impact Photos  
Standard Dredge and Fill Application  
Photos Taken by Meli Dube, October 2016



Figure 5. Wetland Impact Location C- bank impact to replace 12" HDPE slope pipe



Figure 6. Wetland Impact Locations D & E- stream channel impact to replace 12" HDPE slope pipe

Statewide 40871 (NH102 in Londonderry) Wetland Impact Photos  
Standard Dredge and Fill Application  
Photos Taken by Meli Dube, October 2016



Figure 7. Wetland Impact Locations C, D & E- replace 12" HDPE slope pipe



Figure 8. Wetland Impact Location F- slipline 24" CMP with 18" HDPE

Statewide 40871 (NH102 in Londonderry) Wetland Impact Photos  
Standard Dredge and Fill Application  
Photos Taken by Meli Dube, October 2016



Figure 9. Wetland Impact Location F- slipline 24" CMP with 18" HDPE



Figure 10. Wetland Impact Locations G & H- slipline 24" CMP with 18" HDPE

Statewide 40871 (NH102 in Londonderry) Wetland Impact Photos  
Standard Dredge and Fill Application  
Photos Taken by Meli Dube, October 2016



Figure 11. Wetland Impact Location I- slipline 24" CMP with 18" CMP



Figure 12. Wetland Impact Location J- slipline 24" CMP with 18" CMP